

CLAIMS

1. A cleaning tool for use on a work string, the tool comprising a cylindrical body having an axial bore running there through, a plurality of cleaning elements mounted thereon and positioning means to move the cleaning elements in relation to the body, and wherein the elements are located eccentrically to the axial bore.
2. A cleaning tool as claimed in Claim 1 wherein the cleaning elements are scrapers arranged on an outer face thereof.
3. A cleaning tool as claimed in Claim 2 wherein each cleaning element is substantially rectangular in cross-section to provide a first edge between a side and the outer face.
4. A cleaning tool as claimed in any preceding Claim wherein the plurality of elements are located in at least one band around the circumference of the body.
5. A cleaning tool as claimed in any preceding Claim wherein each element is located in a recess of the body, each recess being located longitudinally on the body, eccentrically to the axial bore.
6. A cleaning tool as claimed in any preceding Claim wherein the positioning means is a biasing means located in the recess against the cleaning element.

- 1 7. A cleaning tool as claimed in Claim 5 wherein the  
2 biasing means is a spring held in compression,  
3 biasing the element away from the body.  
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- 5 8. A cleaning tool as claimed in any preceding Claim  
6 wherein an outer face of each cleaning element has a  
7 curvature which is greater than a curvature of the  
8 cylindrical body.  
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- 10 9. A cleaning tool as claimed in Claim 8 wherein the  
11 curvature of the outer faces of the elements are  
12 selected such that in a first position wherein the  
13 outer faces are proud of the body, the outer faces  
14 define a cylindrical surface centralised to the  
15 axial bore.  
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- 17 10. A cleaning tool as claimed in Claim 9 wherein in a  
18 second position, the outer faces are located  
19 outwardly of the first position, the first edge of  
20 each element providing a leading edge of a scraper.  
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- 22 11. A cleaning tool as claimed in any one of Claims 2 to  
23 10 wherein the outer face comprises a material being  
24 softer or more malleable than the material of a  
25 Polished Bore Receptacle (PBR).  
26
- 27 12. A cleaning tool as claimed in any preceding Claim  
28 wherein the elements include a profiled end which is  
29 tapered.  
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- 31 13. A cleaning tool as claimed in any preceding Claim  
32 wherein the elements include a profiled end arranged  
33 to provide a stop.

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2 14. A cleaning tool as claimed in Claim 13 wherein the  
3 end comprises a mill, so that the tool acts as a top  
4 dress mill.

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6 15. A method of cleaning a liner top, the method  
7 comprising the steps;  
8 (a) inserting a cleaning tool into a liner;  
9 (b) running the tool and liner together into a well  
10 bore;  
11 (c) setting the liner at a casing in the well bore;  
12 (d) rotating and/or reciprocating the tool to clean  
13 an inner surface of a PBR on the liner with  
14 cleaning elements thereon;  
15 (e) pulling the tool from the PBR, so that the  
16 cleaning elements move outwardly to contact  
17 neighbouring casing at the liner top; and  
18 (f) rotating and/or reciprocating the tool to clean  
19 an inner surface of the neighbouring casing  
20 with the leading edges of the cleaning  
21 elements.

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23 16. A method of cleaning a liner top as claimed in Claim  
24 15 wherein the tool is as claimed in any one of  
25 Claims 1 to 14.

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27 17. A method of cleaning a liner top as claimed in Claim  
28 15 or Claim 16 wherein the method includes the  
29 further step of tripping the tool from the well  
30 bore.

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32 18. A method of cleaning a liner top as claimed in any  
33 one of Claims 15 to 17 wherein the method includes

1 the step of attaching the tool to a liner setting  
2 tool, so that the tool is tripped out with the  
3 setting tool.

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5 19. A method of cleaning a liner top as claimed in any  
6 one of Claims 16 to 18 wherein the method further  
7 includes the step of selecting the curvature of the  
8 outer faces to be no greater than the curvature of  
9 the inner surface of the PBR.

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11 20. A method of cleaning a liner top as claimed in any  
12 one of the Claims 15 to 19 wherein the method  
13 includes the step of running the tool back into the  
14 PBR.

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16 21. A method of cleaning a liner top as claimed in any  
17 one of the Claims 15 to 20 wherein the method  
18 includes the step of dressing a top of the PBR.

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20 22. A method of cleaning a liner top as claimed in any  
21 one of Claims 15 to 21 wherein the method includes  
22 the step of setting down weight on the tool to  
23 thereby set a packer.